

PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR MANAGEMENT

**Ispat Inland, Inc.
3210 Watling Street
East Chicago, Indiana 46312**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the facilities listed in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2, 326 IAC 2-3, 40 CFR 52.780 and 40 CFR 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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| Source Modification No.: 089-10472-00316 | |
| Issued by: Paul Dubenetzky, Branch Chief Office of Air Management | Issuance Date: |

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 and Section D.1 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates an integrated steel mill.

Responsible Official: John D. Fekete
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3210 Watling Street MC 8-130, East Chicago, Indiana 46312
SIC Code: 3312
County Location: Lake
County Status: Nonattainment for PM₁₀, SO₂, ozone and CO (portions only)
Attainment area for all other criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD and Emission Offset Rules;
Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This permit is to construct and operate a continuous coating line (CCL No. 6), with a maximum throughput of 600,000 tons per year, consisting of the following emissions units:

- (a) One (1) electrical resistance welder exhausting inside the building.
- (b) One (1) alkali cleaning system, consisting of electrolytic and sodium hydroxide dunk tanks, and a brush scrubbers rinse tank, and exhausting inside the building.
- (c) One (1) natural gas-fired strip dryer, identified as source ID 250, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.
- (d) One (1) natural gas-fired radiant tube furnace heating section, identified as source ID 251A, with a heat input capacity of 102.05 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (e) One (1) natural gas-fired radiant tube furnace soaking section, identified as source ID 251B, with a heat input capacity of 5.4 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (f) Two (2) zinc pots, one (1) aluminum pot, one (1) zinc premelt pot, and one (1) aluminum zinc premelt pot, with electric induction heating for each pot, and all exhausting inside the building.
- (g) One (1) natural gas-fired galvanneal soaking furnace, identified as source ID 252, with a heat input capacity of 6.5 million Btu per hour, and exhausting inside the building.
- (h) One (1) natural gas-fired strip dryer, identified as source ID 253, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.

- (i) One (1) chem-treat roll coating system with one (1) natural gas-fired strip dryer, identified as source ID 254, with a heat input capacity of 2.05 million Btu per hour, and exhausting inside the building.
- (j) One (1) phosphate roll coating system with one (1) natural gas-fired infra-red furnace, identified as source ID 255, with a heat input capacity of 9.36 million Btu per hour, and exhausting inside the building.
- (k) Three (3) electrostatic oilers exhausting inside the building.
- (l) Natural gas-fired space heaters, identified as source ID 256, with a heat input capacity of 77.52 million Btu per hour, and exhausting through one (1) stack, identified as 256.
- (m) One (1) natural gas-fired boiler, identified as source ID 257, with a heat input capacity of 22.95 million Btu per hour, and exhausting through one (1) stack, identified as 257.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

This source has submitted their Part 70 (T-089-6577-00316) application on September 16, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emissions units differs from the construction proposed in the application such that a modification is required by 326 IAC 2-1.1 and 326 IAC 2-7-10.5, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)]

- (a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this approval, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, on the attached Certification Form, with each submittal.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within the date of initial start-up, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.
- (b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this approval:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

All air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Testing Requirements [326 IAC 2-7-6(1)]

C.6 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing methods approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.7 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this approval. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, within the date of initial start-up. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend the compliance schedule an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.8 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.9 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.10 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this approval;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from a approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented upon initial start-up of these facilities.

C.11 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of initial start-up and ending on the last day of the reporting period.

SECTION D.1 FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The No. 6 Continuous Coating Line, with a maximum throughput of 600,000 tons per year, consisting of the following equipment:

- (a) One (1) electrical resistance welder exhausting inside the building.
- (b) One (1) alkali cleaning system, consisting of electrolytic and sodium hydroxide dunk tanks, and a brush scrubbers rinse tank, and exhausting inside the building.
- (c) One (1) natural gas-fired strip dryer, identified as source ID 250, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.
- (d) One (1) natural gas-fired radiant tube furnace heating section, identified as source ID 251A, with a heat input capacity of 102.05 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (e) One (1) natural gas-fired radiant tube furnace soaking section, identified as source ID 251B, with a heat input capacity of 5.4 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (f) Two (2) zinc pots, one (1) aluminum pot, one (1) zinc premelt pot, and one (1) aluminum zinc premelt pot, with electric induction heating for each pot, and all exhausting inside the building.
- (g) One (1) natural gas-fired galvaneal soaking furnace, identified as source ID 252, with a heat input capacity of 6.5 million Btu per hour, and exhausting inside the building.
- (h) One (1) natural gas-fired strip dryer, identified as source ID 253, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.
- (i) One (1) chem-treat roll coating system with one (1) natural gas-fired strip dryer, identified as source ID 254, with a heat input capacity of 2.05 million Btu per hour, and exhausting inside the building.
- (j) One (1) phosphate roll coating system with one (1) natural gas-fired infra-red furnace, identified as source ID 255, with a heat input capacity of 9.36 million Btu per hour, and exhausting inside the building.
- (k) Three (3) electrostatic oilers exhausting inside the building.
- (l) Natural gas-fired space heaters, identified as source ID 256, with a heat input capacity of 77.52 million Btu per hour, and exhausting through one (1) stack, identified as 256.
- (m) One (1) natural gas-fired boiler, identified as source ID 257, with a heat input capacity of 22.95 million Btu per hour, and exhausting through one (1) stack, identified as 257.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-1-2] [326 IAC 6-2-4]

- (a) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the combustion facilities (Source ID 250, 251A, 251B and 252 through 256) shall not exceed 0.01 grain per dry standard cubic foot (gr/dscf).

- (b) Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the non-combustion facilities, including the electric resistance welder and alkali cleaning system, shall not exceed 0.03 grain per dry standard cubic foot (gr/dscf).
- (c) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from the boiler (Source ID 257) shall not exceed 0.116 pound per million Btu (lb/MMBtu) heat input. This limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where } Q = \text{Total source heat input capacity (MMBtu/hr); and}$$

Pt = Allowable emission rate (lb/MMBtu)

D.1.2 Emission Offset [326 IAC 2-3]

- (a) The natural gas-fired space heaters (Source ID 256) shall use less than 300 million cubic feet (MMCF) per twelve (12) consecutive month period. This usage limit is required to limit the potential to emit NO_x from the space heaters to 15 tons per year. Therefore, the Permittee will have enough NO_x offset credits to meet the requirements of 326 IAC 2-3 (Emission Offset) for this project.
- (b) Pursuant to 326 IAC 2-3 (Emission Offset), the 76" Hot Strip Mill, 100" Plate Mill and No. 4 Slabber Pits #19 through 45 shall be permanently shut down prior to operation of the No. 6 Continuous Coating Line. Therefore, the Permittee shall meet the requirements to offset their VOC and NO_x increases from this project. These shutdowns will provide 502.3 tons of NO_x and 7.3 tons of VOC.
- (c) The volatile organic compound (VOC) emissions from the radiant tube furnace heating and soaking sections (Source IDs 251A and 251B) shall not exceed 1.4 pounds per million cubic feet (lb/MMCF). Therefore, the Permittee shall meet the offset requirements of 326 IAC 2-3 (Emission Offset).

D.1.3 Heat Input Capacities

The heat input capacities stated in the application and in the description of equipment shall be limited as follows:

- (a) The natural gas-fired strip dryer, identified as source ID 250, shall not exceed a heat input capacity of 2.04 million Btu per hour.
- (b) The natural gas-fired radiant tube furnace heating section, identified as source ID 251A, shall not exceed a heat input capacity of 102.05 million Btu per hour.
- (c) The natural gas-fired radiant tube furnace soaking section, identified as source ID 251B, shall not exceed a heat input capacity of 5.4 million Btu per hour.
- (d) The natural gas-fired galvaneal soaking furnace, identified as source ID 252, shall not exceed a heat input capacity of 6.5 million Btu per hour.
- (e) The natural gas-fired strip dryer, identified as source ID 253, shall not exceed a heat input capacity of 2.04 million Btu per hour.
- (f) The natural gas-fired strip dryer, identified as source ID 254, shall not exceed a heat input capacity of 2.05 million Btu per hour.

- (g) The natural gas-fired infra-red furnace, identified as source ID 255, shall not exceed a heat input capacity of 9.36 million Btu per hour.
- (h) The natural gas-fired space heaters, identified as source ID 256, shall not exceed a heat input capacity of 77.52 million Btu per hour.
- (i) The natural gas-fired boiler, identified as source ID 257, shall not exceed a heat input capacity of 22.95 million Btu per hour.

D.1.4 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the boiler exhausting to stack 257 described in this section except when otherwise specified in 40 CFR Part 60, Subpart Dc.

D.1.5 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1]

All combustion facilities listed in this permit shall use natural gas as the only fuel. Therefore, the requirements of 326 IAC 7-1.1 (SO₂ Emissions Limitations) will not apply.

D.1.6 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.1.7 Testing Requirements [326 IAC 2-1-4(f)] [326 IAC 3-6]

The Permittee shall perform compliance stack tests for VOC emissions from the radiant tube furnace heating and soaking sections (Source IDs 251A and 251B) within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed in accordance with Section C - Performance Testing using the methods specified in the rule or as approved by the Commissioner. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements [326 IAC 2-1-3(i)(8)]

- (a) To document compliance with Condition D.1.2(a), the Permittee shall maintain the following records:
 - (1) Calendar dates covered in the compliance determination period; and
 - (2) Actual natural gas usage for the space heaters since last compliance determination period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.9 Reporting Requirements [326 IAC 2-1-3(i)(8)]

A quarterly summary of the information to document compliance with Condition D.1.2(a) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days of the end of the reporting period.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: Ispat Inland, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3210 Watling Street MC 8-130, East Chicago, Indiana 46312
Source Modification No.: 089-10472-00316

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

- ☐ Test Result (specify) _____
- ☐ Report (specify) _____
- ☐ Notification (specify) _____
- ☐ Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Ispat Inland, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3210 Watling Street MC 8-130, East Chicago, Indiana 46312
Source Modification No.: 089-10472-00316
Facility: Space Heating (Source ID 256)
Parameter: Natural Gas Usage
Limit: 300 million cubic feet (MMCF) per twelve (12) consecutive month period

YEAR: _____

| Month | Natural Gas Usage This Month (MMCF) | Natural Gas Usage Previous 11 Months (MMCF) | Natural Gas Usage 12 Month Total (MMCF) |
|-------|---|---|---|
| | | | |
| | | | |
| | | | |

- ☐ No deviation occurred in this quarter.
- ☐ Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: Ispat Inland, Inc.
 Source Location: 3210 Watling Street, East Chicago, Indiana 46312
 County: Lake
 Construction Permit No.: CP-089-10472-00316
 SIC Code: 3312
 Permit Reviewer: Bryan Sheets

The Office of Air Management (OAM) has reviewed an application from Ispat Inland, Inc. (Inland), relating to the construction and operation of the No. 6 Continuous Coating Line, which will galvanize steel sheets at a maximum capacity of 200,000 tons per year. The No. 6 Continuous Coating Line, consists of the following equipment:

- (a) One (1) electrical resistance welder exhausting inside the building.
- (b) One (1) alkali cleaning system, consisting of electrolytic and sodium hydroxide dunk tanks, and a brush scrubbers rinse tank, and exhausting inside the building.
- (c) One (1) natural gas-fired strip dryer, identified as source ID 250, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.
- (d) One (1) natural gas-fired radiant tube furnace heating section, identified as source ID 251A, with a heat input capacity of 102.05 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (e) One (1) natural gas-fired radiant tube furnace soaking section, identified as source ID 251B, with a heat input capacity of 5.4 million Btu per hour, and exhausting through one (1) stack, identified as 251.
- (f) Two (2) zinc pots, one (1) aluminum pot, one (1) zinc premelt pot, and one (1) aluminum zinc premelt pot, with electric induction heating for each pot, and all exhausting inside the building.
- (g) One (1) natural gas-fired galvaneal soaking furnace, identified as source ID 252, with a heat input capacity of 6.5 million Btu per hour, and exhausting inside the building.
- (h) One (1) natural gas-fired strip dryer, identified as source ID 253, with a heat input capacity of 2.04 million Btu per hour, and exhausting inside the building.
- (i) One (1) chem-treat roll coating system with one (1) natural gas-fired strip dryer, identified as source ID 254, with a heat input capacity of 2.05 million Btu per hour, and exhausting inside the building.
- (j) One (1) phosphate roll coating system with one (1) natural gas-fired infra-red furnace, identified as source ID 255, with a heat input capacity of 9.36 million Btu per hour, and exhausting inside the building.
- (k) Three (3) electrostatic oilers exhausting inside the building.

- (l) Natural gas-fired space heaters, identified as source ID 256, with a heat input capacity of 77.52 million Btu per hour, and exhausting through one (1) stack, identified as 256.
- (m) One (1) natural gas-fired boiler, identified as source ID 257, with a heat input capacity of 22.95 million Btu per hour, and exhausting through one (1) stack, identified as 257.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 17, 1998, with additional information received on January 25, 26 and 29, 1999.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (2 pages).

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

| Pollutant | Allowable Emissions (tons/year) | Potential Emissions (tons/year) |
|--------------------------------------|------------------------------------|------------------------------------|
| Particulate Matter (PM) | 79.75 | 7.5 |
| Particulate Matter (PM10) | 79.75 | 7.5 |
| Sulfur Dioxide (SO ₂) | 0.6 | 0.6 |
| Volatile Organic Compounds (VOC) | 3.42 | 3.42 |
| Carbon Monoxide (CO) | 82.9 | 82.9 |
| Nitrogen Oxides (NO _x) | 211.5 | 211.5 |
| Single Hazardous Air Pollutant (HAP) | 1.78 | 1.78 |
| Combination of HAPs | 1.86 | 1.86 |

- (a) Allowable PM emissions for the boiler are determined from the applicability of rule 326 IAC 6-2-4. Allowable PM emissions from the remaining facilities are determined from the applicability of rule 326 IAC 6-1-2. PM is assumed to equal PM₁₀. See attached spreadsheets for detailed calculations.
- (b) The allowable emissions for the boiler and coating line based on the rules cited are greater than the potential emissions, therefore, the potential emissions are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of NO_x are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. A portion of Lake County has been designated as nonattainment for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Portions of Lake County have also been classified as nonattainment for CO, PM₁₀ and SO₂. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (c) Inland is located in the portion of Lake County classified as nonattainment for the above mentioned pollutants.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

| Pollutant | Emissions (ton/yr) |
|-----------------|--------------------|
| PM | 1,089 |
| PM10 | 1,089 |
| SO ₂ | 14,595 |
| VOC | 4,525 |
| CO | 5,434 |
| NO _x | 12,009 |

- (a) This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.
- (b) These emissions were based on the Facility Quick Look Report, dated 1996.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

| Pollutant | PM (ton/yr) | PM ₁₀ (ton/yr) | SO ₂ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | NO _x (ton/yr) |
|---|-------------|---------------------------|--------------------------|--------------|-------------|--------------------------|
| Proposed Modification | 6.1 | 6.1 | 0.5 | 2.82 | 67.5 | 193.2 |
| Contemporaneous Increases from No.1 Normalizer Preheater Furnace, Annealing Furnace for No.1 Normalizer, No. 5 Galvanizing Line Radiant Tube Furnace, HRCC Project and Vacuum Degasser (proposed) | | | | 22.8 | | |
| Contemporaneous Decreases | | | | | | |
| Net Emissions | 6.1 | 6.1 | 0.5 | 25.6 | 67.5 | 193.2 |
| Emission Offset Significant Level | 25 | 15 | 40 | 25 | 100 | 40 |

Note: The natural gas usage at the space heating unit will be limited to 300 MMCF per year. Therefore, Inland will have enough NO_x credits to meet the requirements of 326 IAC 2-3 (Emission Offset).

This modification to an existing major stationary source is major for VOC and NO_x because the emissions increases are greater than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-089-6577-00316) application on September 16, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

The 22.95 million Btu per hour boiler is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60, Subpart Dc). However, there are no applicable requirements for a boiler that combusts only natural gas.

The application of rust preventative oils to the steel coils is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60, Subpart TT) because this rule only applies to coating operations which use a curing oven and quench station as part of the process.

There are no other New Source Performance Standards (326 IAC 12) or National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61 and 63) applicable to this source.

State Rule Applicability

326 IAC 2-3 (Emission Offset)

Pursuant to 326 IAC 2-3 (Emission Offsets), the following requirements shall be satisfied:

- (a) The applicant shall demonstrate that all existing major sources owned or operated by the applicant in the state of Indiana are in compliance with all applicable emissions limitations and standards contained in the CAA and in this title. The Office of Enforcement has stated that there are no outstanding or unresolved issues for Inland as of February 11, 1999. Therefore, this requirement has been satisfied.
- (b) The applicant will apply emission limitation devices or techniques to the proposed construction or modification such that the lowest achievable emission rate (LAER) for the applicable pollutant will be achieved. Inland will substitute an additional 1.3 offset amount as allowed by 326 IAC 2-3-2(b)(3). Therefore, this requirement has been satisfied.
- (c) The applicant shall submit an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source which demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification. The OAM has reviewed and accepted the alternative site analysis submitted by Ispat Inland, Inc. Therefore, this requirement has been satisfied.
- (d) VOC and NO_x emissions resulting from the proposed construction or modification shall be offset by a reduction in actual emissions of the same pollutant from an existing source or a combination of existing sources.

For severe ozone nonattainment the minimum offset requirement is 1.3 to 1. The following calculation demonstrates that Ispat Inland, Inc. shall meet this requirement:

| | NO _x (tons/yr) | VOC (tons/yr) |
|--|------------------------------|------------------|
| Project Emissions | 193.2 | 2.82 |
| Required Offsets (Project Emissions x 2.6)* | 502.3 | 7.3 |
| Available Offsets | 532.1 | 11.0 |
| Shutdown of 76" Hot Strip Mill (in 1995) | 353.9 | 11.0 |
| Shutdown of 100" Plate Mill (in 1995) | 122.7 | |
| Shutdown of No. 4 Slabber Pits 19-45 (in 1996) | 55.5 | |
| Excess Emission Credits | 29.8 | 3.7 |

* The emissions are multiplied by 1.3 as required by 326 IAC 2-3-3, and an additional 1.3 substituted for LAER, pursuant to 326 IAC 2-3-2.

Since the credits are greater than offsets required by this rule, Inland complies with the requirements of 326 IAC 2-3 (Offset Emissions). After completion of this proposed modification, Inland has available offset credits from the No. 4 Slabber Pits 19-45 in the amount of 29.8 tons of NO_x/yr and from the 76" Hot Strip Mill in the amount of 3.7 tons of VOC/yr.

326 IAC 2-6 (Emission Reporting)

These facilities are subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 10 tons/yr of VOC and NO_x in Lake County. Pursuant to this rule, the owner/operator of this source must annually submit an emission statement of the source. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 4-1 (Open Burning)

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

326 IAC 6-1-2 (Nonattainment Area Particulate Limitations)

Particulate matter emissions from all combustion facilities, excluding the boiler which is regulated by 326 IAC 6-2-4, shall not exceed 0.01 grains per dry standard cubic foot (gr/dscf). These include all facilities exhausting to stacks 250 through 256. Particulate matter emissions from all other noncombustion facilities, including the electrical resistance welder and alkali cleaning system, shall not exceed 0.03 grains per dry standard cubic foot.

326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating)

The 22.95 MMBtu/hr natural gas-fired boiler is subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating). Pursuant to 326 IAC 6-2-4, the particulate matter (PM) emissions shall be limited to 0.116 pounds per million BTU heat input because the source's total heat input capacity is 5465.3 MMBtu/hr. The limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where } Q = \text{Total source heat input capacity (MMBtu/hr); and} \\ Pt = \text{Allowable emission rate (lb/MMBtu)}$$

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitation)

All of the combustion units associated with this project will be required to use natural gas as the only fuel. Therefore, the requirements of 326 IAC 7-1.1 will not apply.

326 IAC 8-2-4 (Coil Coating Operations)

The process of applying zinc, aluminum and oils to the steel coils are not subject to this rule because actual emissions of VOC from the coating operations will be less than 15 pounds per day.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 189 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.
- (b) See attached spreadsheets for detailed air toxic calculations.

Conclusion

The construction of this continuous coating line will be subject to the conditions of the attached proposed **Construction Permit No. CP-089-10472-00316**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Ispat Inland, Inc.
Source Location: 3210 Watling Street, East Chicago, Indiana 46312
County: Lake
Construction Permit No.: CP-089-10472-00316
SIC Code: 3312
Permit Reviewer: Bryan Sheets

On April 2, 1999, the Office of Air Management (OAM) had a notice published in the Gary Post Tribune, Gary, Indiana, stating that Ispat Inland, Inc. had applied for a construction permit to construct and operate a continuous coating line used to galvanize steel coils. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On April 23, 1999, the U.S. EPA submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded for emphasis):

Comment 1:

The potential emission numbers for NO_x and VOC on page 2 of the TSD (211.5 for NO_x and 3.42 for VOC) are slightly higher than the amounts listed on page 3, why is there are difference in the numbers.

Response 1:

The table on page 2 of the TSD lists potential emissions based on the enforceable emission factors and operation at 8,760 hours per year. The table on page 3 lists the limited potential to emit, which in this case includes a natural gas usage limit for the space heating unit.

Comment 2:

The emissions calculations do not include the following equipment: electrical resistance welder, alkali cleaning system, 2 zinc pots, aluminum pot, and zinc premelt pot. Aren't there any emissions from these units?

Response 2:

The zinc and aluminum pots are electrically heated and contain only molten zinc and aluminum and are not considered to have any emissions. The alkali cleaning system consists of two tubs, one with an alkali solution and scrubbers and the other a rinse tank. Since the scrubbers are located under the alkali solution, no emissions are expected from this operation. And finally, the OAM is unaware of any emission factors for electrical resistance welding and based on past permitting and field experience believes that the welding will have negligible amounts of particulate matter emissions.

Therefore, the OAM did not perform any emissions calculation for this equipment.

Comment 3:

The calculations show that 0.31 tpy of VOC are emitted from the electrostatic oilers. Are any other pollutants emitted from these oilers?

Response 3:

The electrostatic oilers apply a very small amount of oil to the steel sheets before they are rolled into coils. This type of application produces negligible amounts of particulate matter. Therefore, the OAM believes that VOC is the only measurable pollutant emitted.

Comment 4:

The shutdown of the 76" Hot Strip Mill, 100" Plate Mill, and #4 Slabber Pits is used to obtain the 2.6 to 1 in NOx and VOC offsets. Are these offset credit amounts based on last 2 years of actual emissions at these facilities?

Response 4:

The offset credit amounts for the 76" Hot Strip Mill and 100" Plate Mill were both based on the last 2 years of actual emission at those facilities. However, the #4 Slabber Pits offset credits were based on 1993 and 1994 data even though it was shut down in 1996. This was due to the fact that in 1995 almost all of the steel made at the BOFs were taken to the continuous casters instead of being cast into ingots. Therefore, the slabber pits were not utilized in a manner consistent with their previous operations. Inland has provided emissions records which indicate that the years used were representative of normal operations and were not used just because they were peak years.

Comment 5:

Permit condition D.1.2(c) limits the VOC emission rate for the radiant tube furnace heating and soaking sections and the galvanneal soaking section. How will this rate be achieved (controls? throughput limits?)? Also, how will compliance with the 1.4 lb/MMCF be verified?

Response 5:

The VOC emission rate for the galvanneal soaking section is not 1.4 lbs/MMCF and the wording in Condition D.1.2(c) will be corrected. The limit of 1.4 lbs/MMCF for the radiant tube furnace heating and soaking sections will be verified during stack tests required by Condition D.1.7.

Comment 6:

Permit condition D.1.3 limits the heat input capacities for several units. If these are not the physical capacities of the units- a)how are these restrictions achieved?; and b)how will these limits be verified?

Response 6:

Since this permit relies on emission offsets for NOX, the OAM felt that it was necessary to make the heat input capacities for the combustion units federally enforceable. These are their maximum capacities and are not further limited in any way.

On April 30, 1999, Ispat Inland, Inc. (Inland) submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded for emphasis):

Comment 1:

Inland submitted several comments regarding Condition B.5. They are summarized below.

On page 5 of 15, Condition B.5(a) should state: "The attached affidavit of construction...verifying that the emission units were constructed ~~as proposed in the application~~ **in conformity with the requirements and intent of the construction permit application.**"

As proposed, the language is slightly different than the affidavit language. Certification in the affidavit is based on the facility being constructed in accordance with the intent of the application. For example, if the furnace dimensions are slightly different than shown in the application (with no effect on air quality), the affidavit can still be signed because the intent of the application has not been altered (no effect on air quality).

Response 1:

The affidavit of construction form must meet the minimum requirements of 326 IAC 2-7-10.5(h). An affidavit of construction may still be submitted even if there have been changes in construction. The requirements of 326 IAC 2-7-10.5(h) allow the source to include any changes to equipment that may be different than what was proposed in the application. If these changes do not affect permitting determinations, a operation permit validation letter will be issued. The IDEM, OAM does not believe it is necessary to change the language as requested in the first sentence of Condition B.5(a).

Comment 2:

On page 5 of 15, Condition B.5(a) should state: "The emissions units covered in the Significant Source Modification approval may begin ~~operating~~ **commercial operation** on the date...proposed. **Commercial operation shall be defined as the date the first coil is produced at No. 6 Continuous Coating Line to fulfill a customer order.**"

Some equipment, such as burners, may be installed and tested in phases prior to or in conjunction with the construction of other emissions units. Testing equipment during construction is normal and necessary to assure proper operation. However, burner testing may be considered start of operation requiring an affidavit.

Response 2:

The suggested language would allow a source to start production prior to receiving the operation permit validation letter, which defeats the intent of the rule. If it is necessary for Inland to complete construction in phases, more than one affidavit of construction may be submitted. This should allow Inland to construct and test a unit after an operation permit validation letter has been issued for that unit while construction is still proceeding on other emissions units at the source. The IDEM, OAM does not believe it is necessary to add the suggested language.

Comment 3:

On page 5 of 15, Condition B.5(b) should state: "If actual construction of the emissions units differs from the construction proposed in the application **such that air quality is adversely affected**, the source may not begin operation..."

Slight variations from the application not related to air quality should not require modification.

Response 3:

The IDEM, OAM agrees that clarification should be made regarding what constitutes changes that could not be included in the affidavit of construction and would require additional review. The following change will be made:

- (b) If actual construction of the emissions units differs from the construction proposed in the application **such that a modification is required by 326 IAC 2-1.1 and 326 IAC 2-7-10.5**, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

Comment 4:

On page 6 of 15, Condition C.2(a) should state: "...prepare and maintain Preventative Maintenance Plans (PMP) within ninety (90) days after ~~issuance of this approval~~ **commercial startup...**"

Often specific equipment is unknown within 90 days after issuance of approval and therefore is impossible to write an effective PMP. In addition air quality cannot be affected until startup. Although a provision exists to extend PMP preparation, in almost all cases sources would be required to request an extension due to unknown equipment, thereby increasing work load for the source and IDEM.

Response 4:

The IDEM, OAM agrees that this language should be clarified for situations where design and construction may not begin within ninety (90) days after issuance of the approval. However, waiting until ninety (90) days after commercial start-up does not fulfill the intent of this requirement. Instead, IDEM, OAM believes the following language provides adequate time to prepare a PMP:

- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ~~ninety (90) days after issuance of this approval~~ **the date of initial start-up**, including the following information on each facility:

Comment 5:

On page 8 of 15, Condition C.7 should state: "...The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after ~~receipt of this approval~~ **commercial startup.**"

Impossible in most cases unless the emission unit is installed. For example, if a CEM were required, a source would be required to install the CEM within 90 days of approval on a stack that has yet to be constructed.

Response 5:

The IDEM, OAM agrees that the language should be clarified for situations where construction of the equipment has not been completed. However, waiting until ninety (90) days after commercial start-up does not fulfill the intent of this requirement. Instead, IDEM, OAM believes the following language provides adequate time to install any necessary monitoring equipment:

Compliance with applicable requirements shall be documented as required by this approval. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, ~~no more than ninety (90) days after receipt of this approval~~ **within the date of initial start-up**. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend the compliance schedule an additional ninety (90) days provided the Permittee notifies:

Comment 6:

On page 10 of 15, Condition C.10(d) should state: "All recordkeeping requirements not already legally required shall be implemented within ninety (90) days of ~~approval issuance~~ **commercial startup**."

In general, unless recordkeeping of construction related activities are required, there are generally no emission activities until startup and therefore no need to keep records.

Response 6:

The IDEM, OAM agrees that record keeping requirements generally do not begin until the equipment begins operating. However, waiting until 90 days after commercial startup does not fulfill the intent of this requirement. Instead, the language will be changed as follows:

- (d) All record keeping requirements not already legally required shall be implemented ~~within ninety (90) days of approval issuance~~ **upon initial start-up of these facilities**.

Comment 7:

On page 10 of 15, Condition C.11(d) should state: "The first report shall cover the period commencing on the date of ~~issuance of this approval~~ **commercial startup** and ending on the last day of the reporting period."

No need to report zero natural gas usage for space heating during construction. Reporting should start after commercial startup.

Response 7:

The IDEM, OAM agrees that reporting requirements generally do not begin until the equipment begins operating. However, waiting until 90 days after commercial startup does not fulfill the intent of this requirement. Instead, the language will be changed as follows:

- (d) The first report shall cover the period commencing on the date of ~~issuance of this approval~~ **initial start-up** and ending on the last day of the reporting period.

Comment 8:

On page 12 of 15, Condition D.1.2(b) should state: "...~~These shutdowns will leave the Permittee with banked offset credits of 28.9 tons NOx from the shutdown of the No. 4 Slabber Pits #19 through 45 and 3.7 tons of VOC from the shutdown of the 76" Hot Strip Mill.~~ **These shutdowns will provide 502.3 tons of NOx and 7.3 tons of VOC.**"

Remaining credits should not be included in the permit. Rather the credits required for offsets should be listed. The primary concern with listing credits remaining is that periodically EPA changes factors. Often times, when banked emissions are based on these factors, the bank must be readjusted to reflect these more accurate factors. Thus the available offsets can go up or down depending upon the change.

Response 8:

The IDEM, OAM does agree that the best available information should be used to determine actual emissions. Therefore, the condition will be changed as requested.

Comment 9:

Inland has found the following errors in the Technical Support Document (TSD):

On page 1 of 16 of the TSD, the first paragraph should state: "...at a maximum capacity of ~~200,000~~ **600,000** tons per year..."

On page 3 of 6 of the TSD, the subsection (b) under the County Attainment Status should state that Ispat Inland is in the CO attainment portion of the county. Emission Offset review does not apply for CO.

On Page 3 of 4 of Appendix A to the TSD, the title block should state: "~~Bituminous Coal~~ **Natural Gas** Combustion"

Response 9:

It is OAM policy to use this TSD addendum to serve as the documentation for any changes made to the proposed approval. Therefore, the TSD will not be amended; but it is noted that the IDEM, OAM agrees that these errors were made. However, for purposes of Appendix A, the change will be made.

Upon further review, OAM has made the following changes (changes are bolded for emphasis):

To clarify that the VOC limit of 1.4 pounds per million cubic feet of natural gas combusted only applies to the radiant tube furnace, Condition D.1.2(c) has been amended as follows on page 12 of 15 of the final permit:

- (c) The volatile organic compound (VOC) emissions from the radiant tube furnace heating and soaking sections ~~and the galvanneal soaking section~~ (Source IDs 251A and 251B) shall not exceed 1.4 pounds per million cubic feet (lb/MMCF). Therefore, the Permittee shall meet the offset requirements of 326 IAC 2-3 (Emission Offset).

Appendix A: Emissions Calculations
Natural Gas Combustion

Page 1 of 4 TSD App A

Company Name: Ispat Inland, Inc.
Address City IN Zip: 3210 Watling St., East Chicago, IN 46312
CP: 089-10472-00316
Pit ID: 089-00316
Reviewer: Bryan Sheets
Date: 1/22/99

A. Strip Dryers, Infra-Red Oven and Boiler

| | | | | | | |
|-----------------------------------|-----------------------------------|------|-----|-------|-------|------|
| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | | | | | |
| 38.4 | 330.1 | | | | | |
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMCF) | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| Potential Emissions (tons/yr) | 1.3 | 1.3 | 0.1 | 16.5 | 0.908 | 13.9 |

B. Space Heating

| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | Limited Throughput (MMCF/yr) | | | | |
|-----------------------------------|-----------------------------------|---------------------------------|-----|-------|-------|------|
| 77.5 | 665.8 | 300.0 | | | | |
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMCF) | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| Potential Emissions (tons/yr) | 2.5 | 2.5 | 0.2 | 33.3 | 1.831 | 28.0 |
| Limited Emissions (tons/yr) | 1.1 | 1.1 | 0.1 | 15.0 | 0.8 | 12.6 |

C. Radiant Tube Furnace Heating Section

| | | | | | | | |
|-----------------------------------|-----------------------------------|-----|------|-----|-------|-------|------|
| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | | | | | | |
| 102.1 | 876.4 | | | | | | |
| | | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMCF) | | 7.6 | 7.6 | 0.6 | 348.0 | 1.4 | 84.0 |
| Potential Emissions (tons/yr) | | 3.3 | 3.3 | 0.3 | 152.5 | 0.614 | 36.8 |

Methodology

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1 and 1.4-2, except NOx and VOC emission factors for Radiant Tube Furnace which are vendor guaranteed.

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr / 1,020 MMBtu/MMCF

Potential Emissions (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) / 2,000 lbs/ton

Limited Emissions (tons/yr) = Limited Throughput (MMCF/yr) x Emission Factor (lb/MMCF) / 2,000 lbs/ton

Appendix A: Emissions Calculations
Natural Gas Combustion

Page 2 of 4 TSD App A

Company Name: Ispat Inland, Inc.
Address City IN Zip: 3210 Watling St., East Chicago, IN 46312
CP: 089-10472-00316
Pit ID: 089-00316
Reviewer: Bryan Sheets
Date: 1/22/99

D. Radiant Tube Furnace Soaking Section

| | | | | | | |
|-----------------------------------|-----------------------------------|------|-----|-------|-------|------|
| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | | | | | |
| 5.4 | 46.4 | | | | | |
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMCF) | 7.6 | 7.6 | 0.6 | 249.0 | 1.4 | 84.0 |
| Potential Emissions (tons/yr) | 0.2 | 0.2 | 0.0 | 5.8 | 0.032 | 1.9 |

E. Galvanneal Soaking Section

| | | | | | | |
|-----------------------------------|-----------------------------------|------|-----|-------|-------|------|
| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMCF/yr) | | | | | |
| 6.5 | 55.8 | | | | | |
| | PM | PM10 | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMCF) | 7.6 | 7.6 | 0.6 | 121.0 | 5.5 | 84.0 |
| Potential Emissions (tons/yr) | 0.2 | 0.2 | 0.0 | 3.4 | 0.154 | 2.3 |

Methodology

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1 and 1.4-2, except NOx and VOC emission factors for Radiant Tube Furnace and Galvanneal Furnace which are vendor guaranteed.

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr / 1,020 MMBtu/MMCF

Potential Emissions (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) / 2,000 lbs/ton

Appendix A: Emissions Calculations
Natural Gas Combustion
HAP Calculations

Company Name: Ispat Inland, Inc.
Address, City IN Zip: 3210 Watling Street, East Chicago, IN 46312
CP: '089-10472-00316
Pit ID: '089-00316
Reviewer: Bryan Sheets
Date: 1/22/99

Potential Throughput
(MMCF/yr)

1974.5

| HAP | Emission Factor (lbs/MMCF) | Emissions | |
|--------------------------------|-------------------------------|----------------|-------------|
| | | (lbs/yr) | (tons/yr) |
| 2-Methylnaphthalene | 2.40E-05 | 0.05 | 0.00 |
| 3-Methylchloranthrene | 1.80E-06 | 0.00 | 0.00 |
| 7,12-Dimethylbenz(a)anthracene | 1.60E-05 | 0.03 | 0.00 |
| Acenaphthene | 1.80E-06 | 0.00 | 0.00 |
| Acenaphthylene | 1.80E-06 | 0.00 | 0.00 |
| Anthracene | 2.40E-06 | 0.00 | 0.00 |
| Arsenic Compounds | 2.00E-04 | 0.39 | 0.00 |
| Benz(a)anthracene | 1.80E-06 | 0.00 | 0.00 |
| Benzene | 2.10E-03 | 4.15 | 0.00 |
| Benzo(a)pyrene | 1.20E-06 | 0.00 | 0.00 |
| Benzo(b)fluoranthene | 1.80E-06 | 0.00 | 0.00 |
| Benzo(g,h,i)perylene | 1.20E-06 | 0.00 | 0.00 |
| Benzo(k)fluoranthene | 1.80E-06 | 0.00 | 0.00 |
| Beryllium Compounds | 1.20E-05 | 0.02 | 0.00 |
| Cadmium Compounds | 1.10E-03 | 2.17 | 0.00 |
| Chromium Compounds | 1.40E-03 | 2.76 | 0.00 |
| Chrysene | 1.80E-06 | 0.00 | 0.00 |
| Cobalt Compounds | 8.40E-05 | 0.17 | 0.00 |
| Dibenzo(a,h)anthracene | 1.20E-06 | 0.00 | 0.00 |
| Dichlorobenzene | 1.20E-03 | 2.37 | 0.00 |
| Fluoranthene | 3.00E-06 | 0.01 | 0.00 |
| Fluorene | 2.80E-06 | 0.01 | 0.00 |
| Formaldehyde | 7.50E-02 | 148.09 | 0.07 |
| Hexane | 1.80E+00 | 3554.10 | 1.78 |
| Indeno(1,2,3-cd)pyrene | 1.80E-06 | 0.00 | 0.00 |
| Manganese Compounds | 3.80E-04 | 0.75 | 0.00 |
| Mercury Compounds | 2.60E-04 | 0.51 | 0.00 |
| Naphthalene | 6.10E-04 | 1.20 | 0.00 |
| Nickel Compounds | 2.10E-03 | 4.15 | 0.00 |
| Phenanathrene | 1.70E-05 | 0.03 | 0.00 |
| Pyrene | 5.00E-06 | 0.01 | 0.00 |
| Selenium Compounds | 2.40E-05 | 0.05 | 0.00 |
| Toluene | 3.40E-03 | 6.71 | 0.00 |
| TOTAL HAPs | | 3727.77 | 1.86 |

METHODOLOGY

Potential Emissions (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) / 2000 lbs/ton

Emission Factors are from AP 42, Tables 1.4-3 and 1.4-4.

Appendix A: Emissions Calculations
Allowable Emissions

Page 4 of 4 TSD App A

Company Name: Ispat Inland, Inc.
Address City IN Zip: 3210 Watling St., East Chicago, IN 46312
CP: 089-10472-00316
Plt ID: 089-00316
Reviewer: Bryan Sheets
Date: 1/22/99

A. Natural Gas-Fired Boiler

Pursuant to 326 IAC 6-2-4, PM emissions from the boiler shall be limited to an amount determined by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where } Pt = \text{allowable emission rate (lbs/MMBtu)} \\ Q = \text{total source maximum operating capacity (lb/MMBtu)}$$

Since Q for Ispat Inland's source is greater than 10,000 MMBtu/hr, the above equation would result in Pt equalling a number less than 0.1 lbs/MMBtu. However, pursuant to 326 IAC 6-2-4(b), for any source with Q greater than 10,000 MMBtu/hr, the limit shall be 0.1 lbs/MMBtu.

Potential emissions from the boiler are 0.171 lbs/hr and the heat input capacity is 22.95 MMBtu/hr.

$$\frac{0.171 \text{ lbs/hr}}{22.95 \text{ MMBtu/hr}} = 0.007 \text{ lbs/MMBtu} \quad \text{Therefore, the boiler can comply with 326 IAC 6-2-4.}$$

B. Natural Gas-Fired Furnaces

Pursuant to 326 IAC 6-1-2, PM emissions from the natural gas-fired furnaces shall not exceed 0.01 grains per dry standard cubic foot.

The outlet grain loading from the furnaces are:

| Facility | Potential Emissions (lbs/hr) | Flow Rate (cfm) | Outlet Grain Loading (gr/dscf) |
|----------------------|---------------------------------|--------------------|-----------------------------------|
| Strip Dryer #1 | 0.015 | 351 | 0.005 |
| Radiant Tube Heating | 0.76 | 17542 | 0.005 |
| Radiant Tube Soaking | 0.04 | 929 | 0.005 |
| Galvanneal Soaking | 0.048 | 1118 | 0.005 |
| Strip Dryer #2 | 0.015 | 351 | 0.005 |
| Strip Dryer #3 | 0.015 | 351 | 0.005 |
| Phosphate Coating | 0.07 | 1610 | 0.005 |
| Space Heating | 0.578 | 13332 | 0.005 |

$$\text{Outlet Grain Loading (gr/dscf)} = \text{Potential Emissions (lbs/hr)} \times 7000 \text{ gr/lb} / 60 \text{ min/hr} / \text{Flow Rate (cfm)}$$

Assume acf = dscf

Therefore, the natural gas-fired furnaces can comply with 326 IAC 6-1-2.

C. Electric Resistance Welding and Alkali Cleaning System

Pursuant to 326 IAC 6-1-2, PM emissions from the other PM emitting facilities shall not exceed 0.03 grains per dry standard cubic foot.

The electric resistance welding, melting pots and alkali cleaning system constitute the remaining PM emitting facilities. PM emissions from these facilities are considered to be negligible and will be assumed in compliance with 326 IAC 6-2-4.

D. Electrostatic Oiler

To determine the VOC emissions from the application of oil, the following assumption will be made:

The amount of VOC per gallon of oil is approximately 0.01% by weight. This is consistent with other oils used in this type of application. In addition, a conservative estimate of 1 lb of oil used for every ton of steel produced will yield the following emissions:

$$0.13 \text{ gallons oil/ton steel} \times 600,000 \text{ tons steel/yr} \times 0.008 \text{ lb VOC/gal} / 2000 \text{ lbs/ton} = 0.31 \text{ tpy}$$